to it touch screen circuitry **34**, in this case conveniently being to the side of the glass **16** external of the cabinet **12**. The configuration and bonding process will presently be described.

[**0021**] The rear side of the flat screen **16** has attached to it an adhesive graphic transfer **36**. The location of a graphical display **38** behind the transfer **36** can, be best seen in FIG. **3**. As particularly shown in **FIG. 4, a** player of the gaming machine **30** is presented with a view through the flat screen **16** of the transfer **36** displaying indicia/icons that are co-located with particular 'touch points' of the touch screen assembly **34** that correspond with the illustrated function (for example "collect", "reserve", etc.). Two lower window portions **40**, **42** of the graphical transfer **36** allow the graphical display **38** to be viewed, by which information concerning available credits and other game functions, instructions or advertising (for example) can be presented to the player. Five upper windows **44-52** allow each of the spinning reels **18** to be viewed by the player.

[**0022**] Therefore, in play of the gaming machine **30**, a player presses the screen **32** at a 'touch point' in the region of the desired displayed indicialicons to effect the respective machine operation, that action being signaled by the touch screen assembly **34** to a game controller, as presently will be described. The game controller then causes the reels **18** to spin, stopping the reels after a predetermined time and displaying or otherwise indicating to the player the result of that play of the game.

[**0023**] Returning to the schematic block diagram of **FIG. 2**, the touch screen assembly **34** connects to a touch screen controller unit **60** by an interconnecting cable **62** carrying analog data. The controller can be such as the present applicant's assembly No. 754-239-00 controller. In turn, the touch screen controller connects with a game microprocessor assembly **64** on a bus **66** that operates under a proprietary, serial protocol, known as "Netplex ". The game microprocessor assembly **64**, can be such as the present applicant's 80960 game controller (assembly No. 755-085-00). The game microprocessor assembly **64** has control over the stepper motors and sensor optics **65** for the spinning reel assemblies and the graphical display **38**. Yet further, the microprocessor assembly **64** has connection with I/O board **68** by a cable **70** under control of a proprietary interface known as "Senet". The I/O board **68** can be such as the present applicant's assembly No. A33-006-14 I/O board. The I/O board **68** has **10** control over the machine peripheral equipment, including buttons, lights and electromechanical meters.

[**0024**] Representative details of the touch screen assembly **34**, and touch screen controller **60** are included in U.S. patent application Ser. No. 08/294,227 (equivalent to Australian Patent Application No. 24957/95 assigned to the present applicant), the contents of which are incorporated herein by cross-reference. Referring to **FIGS. 5 and 6**, fabrication of the touch screen assembly **36** applied to the flat-screen **16** will be described. In this embodiment, the screen **16** is constructed of glass and is approximately 500 mm in length, 340 mm in height and 5 mm thick. Four electrodes **80** are screened onto the glass panel **16** with a silver frit glass mixture. The electrodes are constructed of a conductive material suitable for the soldering of attachment wires **90-96** by use of a low temperature solder **82**. A representative length of the top and bottom electrodes is 290 mm, with a separation of 320 mm. The length of the left side and right side electrodes is 245 mm with a separation of 480 mm. A conductive coating of Indium Tin Oxide (ITO) **84** of approximately 700 25 ohms/sq is applied over the top of the electrodes **80** by a vacuum deposition process. A protective hard coat of silicon dioxide **80** then is placed over the ITO layer to protect the ITO layer **84** from scratching and to provide electrical insulation. The coating preferably is to a thickness of 20,000 Angstroms.

[**0025**] For a configuration of the dimensions described, the useable area of the flat screen **16** for touch screen operation is about 25 cm×40 cm, this being the area between the electrodes. The touch screen assembly **34** of the dimensions described typically results in a 5×7 array of discrete 'touch points'. Finally, an edge shielding **5** not shown) is placed around the perimeter of the glass screen **16** to isolate the touch screen assembly **34** from surrounding conductive material, and further to reduce the incidence of leakage currents that might otherwise cause spurious signals that might bemistaken for a "touch".

[**0026**] Referring now to **FIGS. 7***a*-**7***f*, further details of the touch screen controller unit **60** will be given. The touch screen assembly **34** connects with the touch screen controller unit **60** by a cable **62** as has previously been described. The cable can be a four conductor shielded cable, such as the part no. 9534 manufactured by Belden Cable of the United States.

[**0027**] As particularly shown in **FIG. 7***a*, the electrodes **80** each are A.C. coupled to a differential amplifier stage **100** via 10 uF capacitors. The differential amplifier stage consists of four separate amplifiers. The gain of each amplifier is 2000. The amplifiers amplify the difference between the 11.0592 kHz signal sent to the 'Screen Drive **0**' (described presently) and the signal returning from the touch screen circuitry **34**. The output of the differential amplifier is A.C. coupled to the four Bessel band pass filters **102-108**. The gain of the Bessel band pass filter stage is about **6**, and the stage filters out any signal that is not within the pass band frequency of the filter. The center frequency of the Bessel band pass filter stage is set to the same frequency as the screen drive 11,0592 kHz.

[**0028**] As shown in **FIG. 7***f*, a Dallas 80C320 microprocessor crystal **16** is divided down from 22,1184 MHz into two frequencies. One of the frequencies is used to clock the Bessel band pass filter Stage. This frequency is 100 times the center frequency of the Bessel band pass filter stage, and is 1.10592 MHz. The other frequency is 1.10592 kHz. This frequency is A.C. coupled to the auto gain control circuitry **110** shown in **FIG. 7***c* which is controlled by a Dallas 80C320 microprocessor **130**. The microprocessor changes the gain of the auto gain control circuitry **110** so proper screen drive is accomplished. The output of the auto gain control circuitry **110** is connected to a second order Butterworth low pass filter **112**, that is used to remove some of the higher order harmonics from the auto gain control circuitry **110**. The −3 dB point on the low pass filter is set at approximately 11 kHz. The signal out of the low pass filter **112** is A.C. coupled to 'Screen Drive **0**', and D.C. coupled to the differential amplifier stage **100**.

[**0029**] The four outputs from the Bessel band pass filter stages **102-108** are connected to a channel multiplexer **120**,